OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.
402

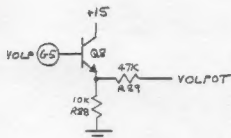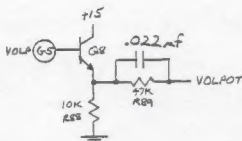| PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	SCHEMATIC 1679H SHEET 2

DESCRIPTION OF CHANGE

OLD:

NEW:

ADD .022mf CAPACITOR IN
PARALLEL WITH R89.

REASON FOR CHANGE

TO ELIMINATE NOISE WHEN CONTROLING THE VOLUME WITH
AN EXTERNAL LOW IMPEDANCE VOLTAGE SOURCE.

(FOR EXAMPLE, A CV OUTPUT OF THE DSX PLUGGED INTO THE VOLUME FOOT PEDAL INPUT.)

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL	12/9/8.
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		
☒ RETROFIT IF NEEDED IN FIELD		12/9/82

PRODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

1682 SHEET 2of3

DESCRIPTION OF CHANGE

REVERSE POSITION OF D101 & R101 ON drawing
"   "   " D201 & R201 "   "
"   "   " D301 & R301 "   "
"   "   " D401 & R401 "   "

C32 connected to pin 5 of U35 shald be C34
C23 connected to pins of U21 should be C3

ADD R32 to 100K 1% connected to pin 2 of U33
ADD R33 to 4.87K 1% connected to pin 2 a pin1 of U33

CHANGE R33 (560Ω) to R35 sheet 1 of 3

ADD R36 to 47K connected to pin 4 of U26.

CHANGE pin 4 (output control) U13 to pin 1

REASON FOR CHANGE

To match schematic to board layout.

EFFECTIVITY

] FUTURE PRODUCTION ONLY

] RETROFIT UNITS IN PRODUCTION AND INVENTORY

] RETROFIT UNITS IN FIELD

√ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

]

WRITTEN BY   DATE

7dec82

APPROVED BY   DATE

12-7-82

RODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

OB-8 POT. Board 1&2   1681A

ESCRIPTION OF CHANGE

Reduce output of 5.6v Supply.


```
                        78LØS
  +15v ──────┤ IN  U4  OUT ├──── +5.6 v   (± 200 mV)
                        820Ω R22
                 75Ω
          +      R21      +
          22µF          22µF
          C3    │        C4
                │
                └── R21 was 100Ω become 75Ω
```
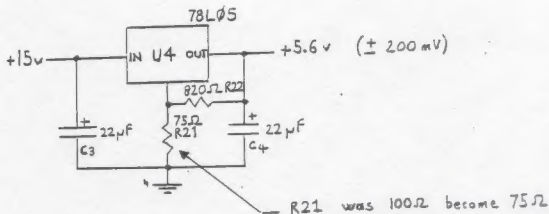
EASON FOR CHANGE

Increase the active range of the Front panel pots

FFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

WRITTEN BY   DATE

PETER MURSON   12/10/8

APPROVED BY   DATE

                12/10/82

✳ REVISED 1-5-83 ✳ -

OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.

405

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1682A

DESCRIPTION OF CHANGE. The 3360 VCA is bypassed and the 3310 in conjunction with the software modulates the amplitude of the envelope. A software vision A-4 or posterior must be installed.
.31, at the ouput of U27 is short circuited & R10 is removed
(see sheet 2)

BEFORE

AFTER

REASON FOR CHANGE

Improve temperature stability and tracking of VCO2 Filter env. modulation

EFFECTIVITY	WRITTEN BY	DATE
☐ FUTURE PRODUCTION ONLY		
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY	MICHEL DOLDIC	12/12/8
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		
☐ _____		12/12/82

* REVISED 1-5-83 *

OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.

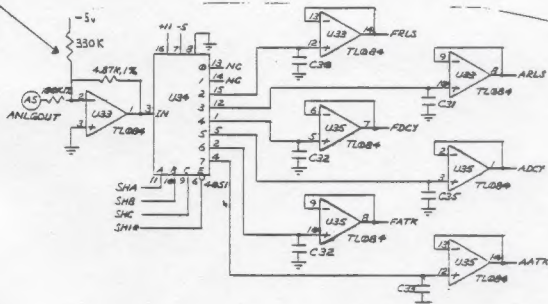**406**

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1682 A

DESCRIPTION OF CHANGE

Add a resistor between -5v and pin 2 of U33 (upper & lower voice). A software revision A-4 or posterior must be installed and the offset calibration of the service center test must be performed.

REASON FOR CHANGE

The offset calibration routine of the service center test can correct the TLØ24 for positive or negative offset.

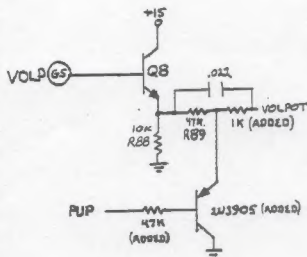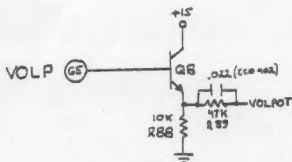| EFFECTIVITY	WRITTEN BY	DATE
☐ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	12/12/82
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		12/12/82
☐ _____		

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	SCHEMATIC 1679 A, SHEET 2 OB-8 PROCESSOR BOARD

DESCRIPTION OF CHANGE OLD:

NEW:

ADD PNP TRANSISTOR, 47K AND 1K RESISTORS

REASON FOR CHANGE

TO REDUCE POWER-DOWN GLITCH AT OUTPUTS

ACTIVITY	WRITTEN BY	DATE
] FUTURE PRODUCTION ONLY	Randy Evans	12-15-82
] RETROFIT UNITS IN PRODUCTION AND INVENTORY		
] RETROFIT UNITS IN FIELD	APPROVED BY	DATE
] DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		12-15-82
] RETROFIT AS NEEDED		

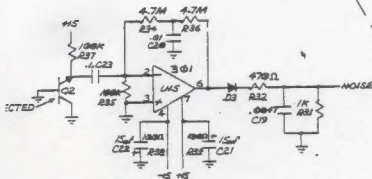| PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	NONE

DESCRIPTION OF CHANGE

OLD:
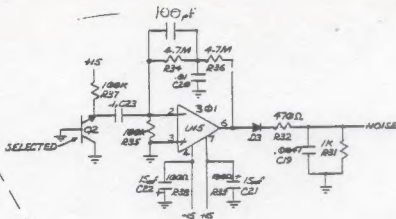
NEW

ADD A 100pf CAPACITOR
IN PARALLEL WITH R34

REASON FOR CHANGE
ON REVISION A PROCESSOR BOARDS, WHEN A SEQUENCER IS CONNECTED,
DISTORTION BECOMES PRESENT IN THE NOISE GENERATOR.

EFFECTIVITY

☐ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

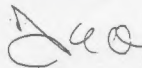☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☒ RETROFIT REV. "A" BOARDS ONLY

WRITTEN BY   DATE
                                    12/22

APPROVED BY   DATE
                                    12/22/82

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	1682A

DESCRIPTION OF CHANGE

ADD A 33K RESISTOR ON EACH VOICE (8 PLACES)
TO RX27. THIS RESISTOR WAS 4.7K BUT WAS REMOVED
BY ECO 405.

REASON FOR CHANGE

TO KEEP OSC 2 FROM GOING SHARP WHEN
THE SAWTOOTH WAVE IS SELECTED.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	RANDY EVANS	12/22/82
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		12/22/82
☐ _____		

+ REVISED 1-5-83 +

OBERHEIM ELECTRONICS, INC.		ECO NO.
ENGINEERING CHANGE ORDER		410

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	NONE

DESCRIPTION OF CHANGE

REMOVE EPROMS A3φ-A33 FROM SOCKETS
U21 THROUGH U24, AND REPLACE WITH NEW
SOFTWARE, EPROMS A4-φ -A4-3.

— ECO's 405, 406, 409 must be implemented. —

REASON FOR CHANGE

TO ADD THE OUTPUT 3080 (U503) OFFSET
CALIBRATION PROCEDURE TO THE TEST SOFTWARE

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☐ RETROFIT UNITS IN FIELD
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☐ _____

WRITTEN BY	DATE
MICHEL DOIDIC	12/22/8.

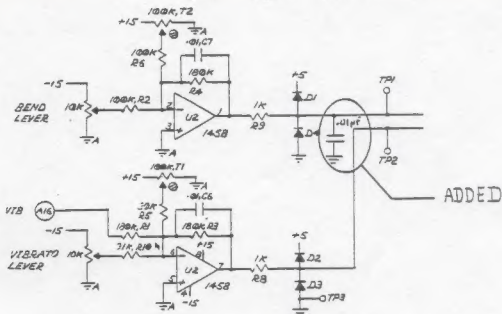| APPROVED BY	DATE
	12/22/82

RODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

OB-8 BEND BOX 1680A SHEET 1 OF 1

ESCRIPTION OF CHANGE

EASON FOR CHANGE

- REMOVES NOISE MODULATION FROM BENDER LEVER

FFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

WRITTEN BY   DATE

MICHEL DOIDIC   1/6/83

APPROVED BY   DATE
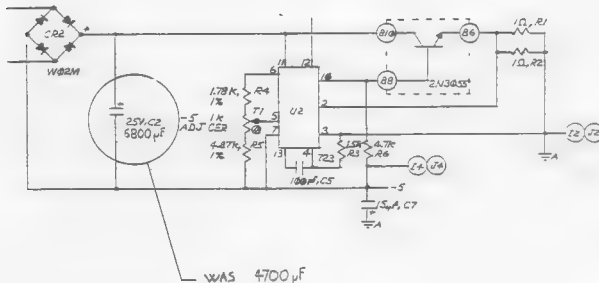
1/6/83

OBERHEIM ELECTRONICS, INC.	ECO NO.
ENGINEERING CHANGE ORDER	412

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	PROCESSOR BOARD- POWER SUPPLY 1679A SHEET 4 of 4

DESCRIPTION OF CHANGE

WAS 4700 µF

(REFERENCE ECO #401)

REASON FOR CHANGE

WHEN THE NEW POWER SUPPLY TRANSFORMER (REF. 561021) IS USED, THIS CHANGE DECREASES THE OUTPUT THUMP ON POWER OFF.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	1/18/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		1/18/83
☐ _____		

PRODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

VOICE BOARD 1682A SHEET 2 OF 3

DESCRIPTION OF CHANGE

NOISE (A1) —3— U26 —4— U33 —7— NOI
                        5   TL084
                   47K
                   R36

— WAS 47K
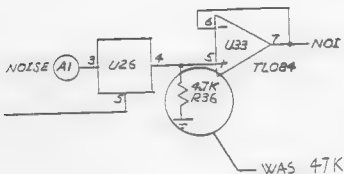
REASON FOR CHANGE

REMOVE LEAK OF NOISE GENERATOR WHEN + VOICE IS GATED

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

WRITTEN BY

MICHEL DOIDIC

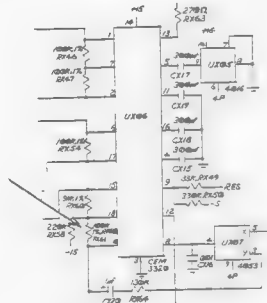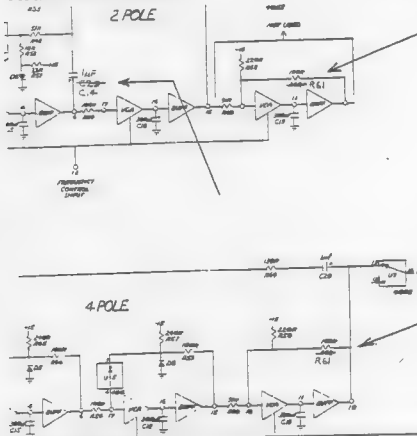DATE

1/.8/83

APPROVED BY

DATE

1/18/83

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	1682A VOICE BOARD
	2 POLE/4 POLE CONFIGURATION

DESCRIPTION OF CHANGE

REASON FOR CHANGE

RESISTOR AT UX06 PINS 10, 18 MARKED RX68 SHOULD BE RX61.

CAPACITOR IN 2 POLE/4 POLE CONFIGURATION DRAWING MARKED C20 SHOULD BE C14.

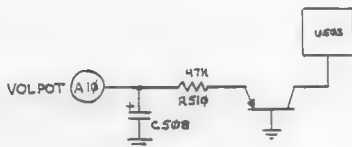| EFFECTIVITY	WRITTEN BY	DATE
☐ FUTURE PRODUCTION ONLY	PAUL WHITE 1/20/83	
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☒ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		1/20/83
☐		

RODUCT AFFECTED

OB-8

DRAWINGS AFFECTED
SCHEMATIC
1682 B OB-8 VOICE BOARD (UPPER)

ESCRIPTION OF CHANGE

Change C508 from 0.1uf Mylar To 2.2 ElecTrolyTic (Upper Voice only)

EASON FOR CHANGE

To eliminaTe noise aT ouTpuT aT low masTer volume levels

FFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	Randy Evans	1-26-83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		1-27-93
☐ _____		

| OBERHEIM ELECTRONICS, INC. | ECO NO. |
| ENGINEERING CHANGE ORDER | 4/6 |

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	1632B OB-8 Voice Board 1689B

DESCRIPTION OF CHANGE

★ Add This .022 Cap.
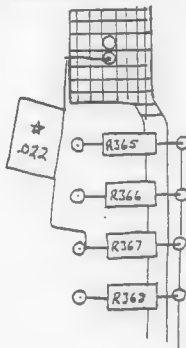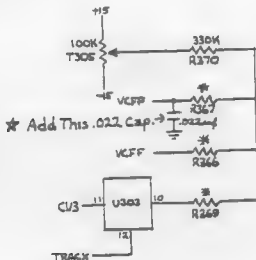
Add a .022 Mylar Capacitor To both The Top and bottom Voice Boards

REASON FOR CHANGE

To Filter-out digital noise picked-up along The Filter Pedal line (VCFP) when a Sequencer (DSX) is connected.

EFFECTIVITY

FUTURE PRODUCTION ONLY

RETROFIT UNITS IN PRODUCTION AND INVENTORY

RETROFIT UNITS IN FIELD

DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

As Required in Test

WRITTEN BY	DATE
Randy Evans	2-3-83
APPROVED BY	DATE
	2-3-83

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1632 B SHEET 3 of 3

DESCRIPTION OF CHANGE

WAS 1 CELL OF 3360   WAS A TLØ81
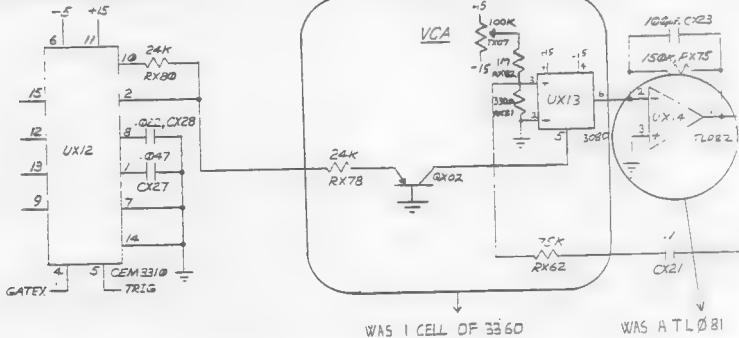
— ALSO: UXØ8 IS DELETED AND REPLACED BY THE OTHER CELL OF THE TLØ82 UX14

REASON FOR CHANGE

— RATIONALIZE THE CIRCUITRY

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY, START WITH VOICE BOARD PC '658B	MICHEL DODIC	2/ /83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		2 5 83
☐ _____		

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1682B SHEET 3 of 3

DESCRIPTION OF CHANGE

RX 0 ON VCO 1 AND RX 23 ON VCO 2 BECOME ±.2 < 1%

REASON FOR CHANGE

- BRING THE TRACKING TRIMMER IN THE MIDDLE

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY, START WITH VOICE BOARD PC 653B	MICHEL DOLDIC	2/1/8
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		2/15/83
☐ _____		

| OBERHEIM ELECTRONICS, INC. | ECO NO. |
| ENGINEERING CHANGE ORDER | 420 |

| PRODUCT AFFECTED | DRAWINGS AFFECTED |
| OB-8 | VOICE BOARD 1682B SHEET 1, 2, 3 |

DESCRIPTION OF CHANGE

THE VOICE BOARD PRINTED CIRCUIT 1658A IS REPLACED BY
PRINTED CIRCUIT 1658B

ECOs 413 417 418 419 ARE IMPLEMENTED

REASON FOR CHANGE

- REMOVES CUTS AND JUMPERS

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

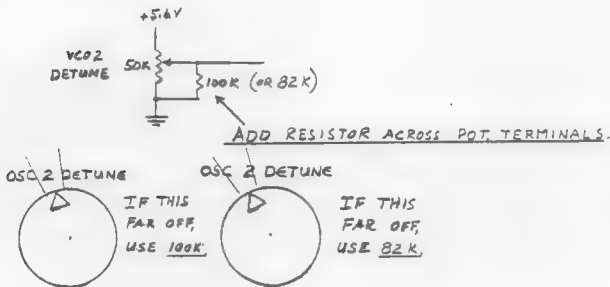| WRITTEN BY | DATE |
| MICHEL DOIDIC | 2/11/83 |

| APPROVED BY | DATE |
| | 2/15 83 |

| OBERHEIM ELECTRONICS, INC. | ECO NO. |
| ENGINEERING CHANGE ORDER | 421 |

| PRODUCT AFFECTED | DRAWINGS AFFECTED |
| $OB-8$ | POT BOARD 1681 B |

DESCRIPTION OF CHANGE

$+5.6V$

VCO2 DETUNE 50K

$100K$ (OR 82 K)

ADD RESISTOR ACROSS POT TERMINALS.

OSC 2 DETUNE — IF THIS FAR OFF, USE 100K

OSC 2 DETUNE — IF THIS FAR OFF, USE 82 k.

REASON FOR CHANGE

TO CENTER OSC 2 DETUNE CONTROL WHEN LED GOES OFF
WITH KNOB SIGNIFICANTLY COUNTER CLOCKWISE OF CENTER.

EFFECTIVITY

] FUTURE PRODUCTION ONLY

] RETROFIT UNITS IN PRODUCTION AND INVENTORY

] RETROFIT UNITS IN FIELD

] DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

X AS REQUIRED

WRITTEN BY	DATE
BILL CAWTHORNE	2-22-83
APPROVED BY	DATE
	2-24-83

OBERHEIM ELECTRONICS, INC.

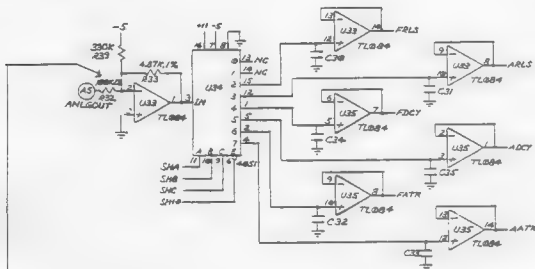ENGINEERING CHANGE ORDER

ECO NO.

422

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1682B SHEET 2

DESCRIPTION OF CHANGE

R32 100K 1% are 50Ω matched
between Lower and upper tray.

R32 on the Lower and upper tray are mounted after the two
boards are screwed together.

REASON FOR CHANGE

— IMPROVES MATCHING OF TIMING BETWEEN ENVELOPES OF UPPER
AND LOWER TRAY.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	3/10/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		3/10/83
☐ _____		

CANCELLED BY ECO # 429

OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.

423

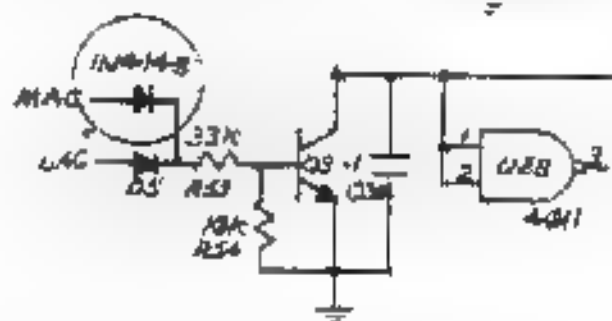| PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	1679 B - SHEET 1
	1679 E - SHEET 4

DESCRIPTION OF CHANGE
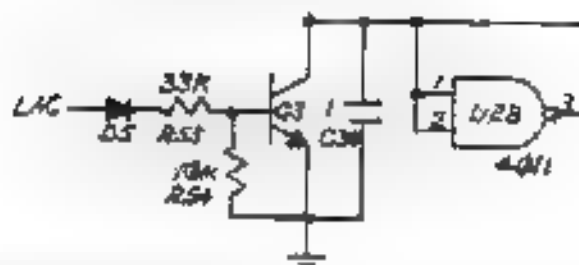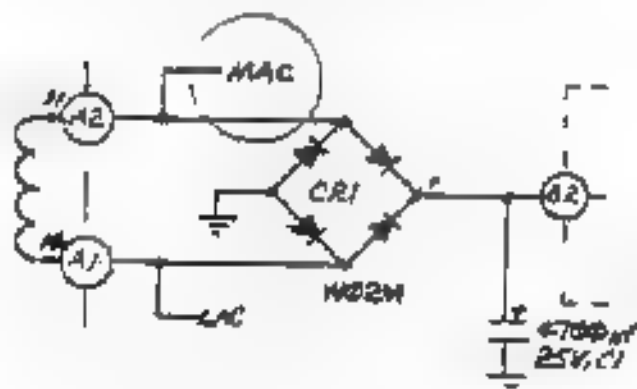

WAS
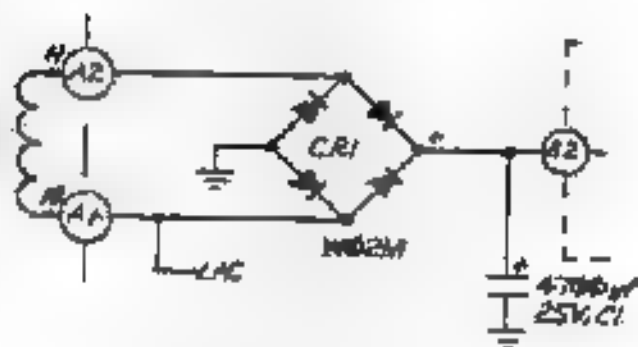
SHOULD BE

REASON FOR CHANGE

IMPROVE MARGIN OF "PUP" CIRCUIT TO INADVERTENT TURN-OFF, ESPECIALLY AT 50 Hz.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY		3-28-93
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☒ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		3-28-93
☐		

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	PROCESSOR BOARD 1679B SHEET 1 OF 4

DESCRIPTION OF CHANGE

THE Z80 RESET IS NOW DRIVEN BY
THE PUP SIGNAL.

DELETED

ADDED CONNECTION
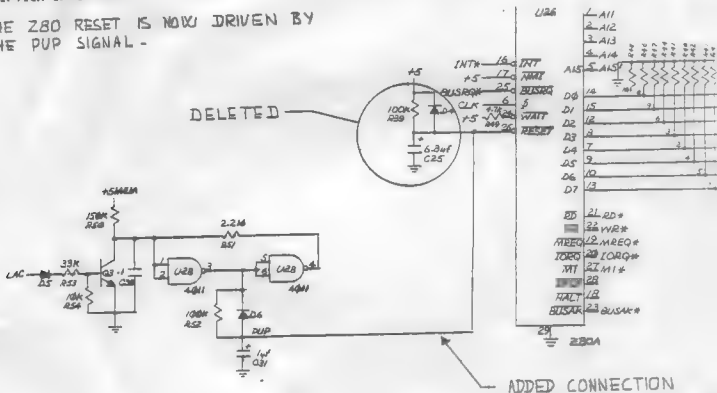
REASON FOR CHANGE

TO AVOID POSSIBLE MEMORY DROP CAUSED BY SHORT POWER DROP

EFFECTIVITY	WRITTEN BY	DATE
☐ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	4/11/83
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		4/11/83
☐ _____		

OBERHEIM ELECTRONICS, INC.	ECO NO.
ENGINEERING CHANGE ORDER	425

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	NONE

DESCRIPTION OF CHANGE

REMOVE EPROMS A5-0, A5-1, A5-2, A5-3 FROM
SOCKET U21 THROUGH U24, AND REPLACE WITH NEW
SOFTWARE EPROMS A6-0, A6-1, A6-2, A6-3

REASON FOR CHANGE

The version A6 adds two new features to the version A5:

------- A) Every time a cassette is recorded from an OB-8, the envelope offset
values of this very machine are stored at the end of the patch transfer.
When this cassette is played back the envelope offset values may
be retrieved from the cassette. To do so, you must hold down simultaneously
the six following switches and then push PLAY.
OSC1 ON , OSC2 HALF , OSC2 FULL , NOISE , 4 POLE , TRACK
This feature lets you save the envelope offset data before to change
the battery or a memory chip and in a more general way anytime you intend to
service an OB-8. It also gives to the user the possibility to retrieve the
envelope offset value after an unfortunate memory drop.

------- B) The program data may be reinitialized like at the first power on.
To do so, the memory protect switch must be off and you must hold down
simultaneously the program 1 to 8 switches and then push SPLIT (use your
elbow ...).
This procedure is useful if you cannot retrieve the envelope offset
data from a cassette after another unfortunate memory drop. The initialization
will set the offsets to their mid value and the envelope will be bearable even
if they are not well matched.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DO.DIC	4/11/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		4/11/83
☐ _____		

PRODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

POWER SUPPLY

DESCRIPTION OF CHANGE

ADD A JUMPER BETWEEN PIN I OF THE -15 REGULATOR
7915 (GND) AND THE GROUND REFERENCE TEST POINT.
THE JUMPER MUST BE MADE OF A 18 AWG WIRE (.04 inch/ 1 mm)
MINIMUM AND MUST BE SHORT.

JUMPER

REASON FOR CHANGE

TO REMOVE AC HUM ON AUDIO OUTPUT.

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

WRITTEN BY

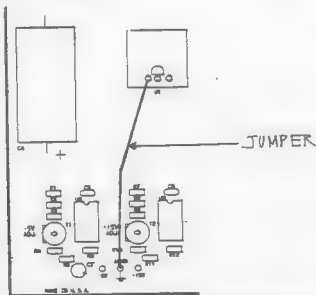MICHEL DOIDIC

DATE

4/11/83

APPROVED BY

DATE

4 .83

OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.
427

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 SERVICE MANUAL

DESCRIPTION OF CHANGE — SERVICE SOFTWARE ONLY —

SOFTWARE REVISION A7: USE EPROMS A7-0, A7-1, A7-2, A7-3

CHANGE PROCEDURE OF OFFSET CALIBRATION AS FOLLOWS

THE FIRST 6 PARAMETERS (FILTER RLS, VCA RLS, FILTER DCY,
VCA DCY, FILTER ATTACK, AND VCA ATTACK) ARE TO BE CALIBRATED
FOR THEIR MAXIMUM VALUE (-.2560 V.) INSTEAD OF THEIR MINIMUM
(0.0V).

2.   ACTIVATE CONTINUOUS RAM TEST BY PRESSING "LINER" SWITCH.
LOOK AT THE LEDS ON THE PROGRAM SECTION. NO LIGHTS
MEANS ALL ARE FINE. FAILURE IN RAM0 (U20) IS INDICATED
BY "A" BEING LIT, RAM1 (U19) = B ON AND IF "C" IS ON, THERE
IS A FAILURE IN RAM2 (U18). 1 ENTIRE CYCLE TAKES LESS THAN 1 S.
THIS TEST RUNS CONTINUOUSLY UNTIL A NEW TEST IS SELECTED.
AND ONCE AN ICI FAILS THE LED STAYS ON UNTIL THE TEST IS
RESELECTED. OF COURSE, MEMORY PROTECT MUST BE OFF!

3. DURING LED TEST MODE, THE VOLUME IS TURNED ON, AND THE
POTS MAY BE EASILY CHECKED FOR DEAD ZONES. THE FREQUENCY OF
THE OSC. IS DETERMINED BY POSITION OF THE 'LAST EDITED' POT.
CONTROL JUMPS TO POT THAT IS BEING MOVED AND STAYS THERE UNTIL A
NEW POT IS MOVED, BEND BOX RATE POTS ARE INCLUDED.

REASON FOR CHANGE

IMPLEMENT TWO NEW TESTS, AND IMPROVE OFFSET CAL.

EFFECTIVITY	WRITTEN BY	DA
☑ FUTURE PRODUCTION ONLY AND AS NEEDED.	ANNE GRAHAM 5/9/83	
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DA
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED	_5/13.3_	
☐ _____		

PRODUCT AFFECTED

OB-8

DRAWINGS AFFECTED

VOICE SCHEMATIC 1632 B
BILL OF MATERIALS 722073-000

DESCRIPTION OF CHANGE

COMPONENT NO:S CX25 AND CX27
ON THE OB-8 VOICE BOARDS, ENVELOPE SECTION. 16 PIECES PER OB-8:

WAS: PART NO. 153008   .047µF ±20% CAPACITOR

IS NOW: PART NO. 153021   .047µF ±5% CAPACITOR.

REASON FOR CHANGE

TIGHTEN TOLERENCE ON ENVELOPE SPEED CAPACITOR.

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐ _____

WRITTEN BY   DATE

ANNE GRAHAM   5-23-93
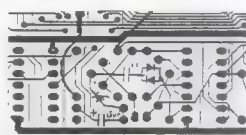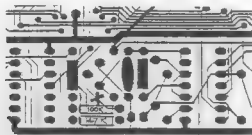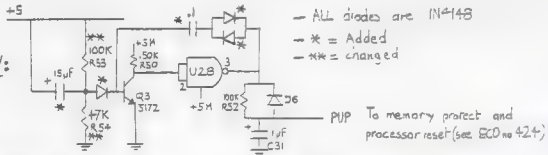
APPROVED BY   DATE

5-23-93

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 PROCESSOR BOARD 1679B sheet 1 of 4

DESCRIPTION OF CHANGE

NEW PUP CIRCUITRY:

- ALL diodes are 1N4148
- * = Added
- ** = changed

PUP To memory protect and processor reset (see ECO no 424)

- Remove D5, C30, R31 (darkened components)
- Cut between Q3 base and R33
- Remove diode added by ECO 423 (under the board)
- Replace R53 with a 100K and R54 with a 47K

- Add a jumper between +5 and R53
- Add from under the board: 2 caps and 3 diodes

- Replace C1 (4700 μF cap on 5v power supply) with a 10,000 μF 16v

REASON FOR CHANGE

- Avoid memory drop.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	6/21/83
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☒ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		6/21/83
☐ _____		

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8 Voice upper/lower	1682 20F3 & 1682B 20F3

DESCRIPTION OF CHANGE

$U16,2 \rightarrow R401$ should be $U16,2 \rightarrow R201$
$U16,6 \rightarrow R201$ Should be $U16,6 \rightarrow R401$

also.

$U15,6 \rightarrow U16,5$ should be $U15,6 \rightarrow U16,1$
$U15,2 \rightarrow U16,1$ Should be $U15,2 \rightarrow U16,5$

REASON FOR CHANGE

to correct OB-8 Voice Board Schmatics

EFFECTIVITY	WRITTEN BY	DATE
☐ FUTURE PRODUCTION ONLY	P.M.	4-2-83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☒ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		4-7-83
☐ _____		

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	ECO n: 419

DESCRIPTION OF CHANGE

$-5v$

R38
820 Ω (was 47K)

(to 4016 Vss) $-1v$

R37
220 Ω
(was 12K)

CS∅
10 µF
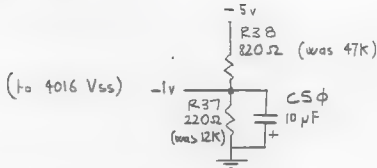
change value of -1 divider on each voice board

REASON FOR CHANGE

- ALLOWS USE OF SIGNETICS' 4016 &
  IDENTIFIES COMPONENTS

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	6/27/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		6-27-83
☐ _____		

OBERHEIM ELECTRONICS, INC.

ENGINEERING CHANGE ORDER

ECO NO.

432

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 PROCESSOR BOARD 1679B sheet 2 of 4

DESCRIPTION OF CHANGE

REASON FOR CHANGE

- AVOID MISSING PULSE ON ARPEGIATOR EXTERNAL CLOCK

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY

☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

☐

WRITTEN BY	DATE
MICHEL DOIDIC	6/27/83
APPROVED BY	DATE
	6-27-83

| PRODUCT AFFECTED | DRAWINGS AFFECTED |
| OB-8 | OB-8 VOICE BOARD 1682B sheet 2 |

DESCRIPTION OF CHANGE

ECO NO. 422 IS CANCELLED. R32 ON LOWER AND UPPER
VOICE BOARD ARE NOT HATCHED ANYMORE.

REASON FOR CHANGE

- THE NEW ENVELOPE CALIBRATION SOFTWARE STARTING WITH
A7 (SEE ECO 427) DOES NOT REQUIRE THOSE RESISTORS TO BE HATCHED

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	7/5/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		7/5/83
☐ _____		

OBERHEIM ELECTRONICS, INC.	ECO NO.
ENGINEERING CHANGE ORDER	434

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	NONE

DESCRIPTION OF CHANGE

- REPLACE EPROMS IN SOCKET U21 THROUGH U24 WITH NEW SOFTWARE EPROMS A8-Ø, A8-1, A8-2, A8-3

   The software version A8 contains the following new features:

   1) — LEGATO PORTAMENTO
   2) — EQUAL TIME LINEAR PORTAMENTO
   3) — EXPONENTIAL PORTAMENTO
   4) — INVERT LFO FREQUENCY MODULATION ON VCO 1
   5) — INVERT LFO PULSE WIDTH MODULATION ON VCO 1
   6) — VCF TRACKING OF THE BEND LEVER
   7) — REVERSABLE BEND LEVER
   8) — REVERSABLE MODULATION LEVER

- IF THE PREVIOUS SOFTWARE WAS A3 OR PREVIOUS; ECO: 405, 406, 408 MUST BE IMPLEMENTED AND THE OFFSET CALIBRATIONS MUST BE DONE AS DESCRIBED BY ECO 427

- IF THE PREVIOUS SOFTWARE WAS A4 THE OFFSET CALIBRATION MUST BE DONE AS DESCRIBED BY ECO 427

REASON FOR CHANGE

- ADD NEW FEATURES.

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY	MICHEL DOIDIC	7/12/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		7/12/83
☐ _____		

ENGINEERING CHANGE ORDER

PRODUCT AFFECTED: OB-8	DRAWINGS AFFECTED: OB-8 VOICE BOARD SCHEMATIC (No. 1682B) AND PARTS LAYOUT (No. 1689B)	ECO NO. 435

EFFECTIVITY:

☐ AS REQUIRED IN TEST
☒ FUTURE PRODUCTION
☐ RETROFIT PRODUCTION & INVENTORY
☐ RETROFIT IN FIELD   ☐ AS NEEDED
☐ DRAWING CORRECTION ONLY
☐ _____

REASON FOR CHANGE:

REMOVE NOISE ON "VCFP"
(VCF PEDAL) LINE.

WRITTEN BY: P. MUNSON	DATE: 10-13-83	APPROVED BY:	DATE: 10-17-83

DESCRIPTION OF CHANGE:

ECO 416 ("AS NEEDED") IS MADE A
PERMANENT CHANGE.

(ADD .022 MF CAP BETWEEN "VCFP"
LINE AND GROUND).

10.   Turn the Interface board chip-side down with the ribbon cables stick
out to the left. The 16-pin ribbon will be above the 40-pin ribbon. Pin
of both ribbon cables is located at the tops of the sockets. Insert the
pin ribbon header into socket 26 on the processor board, being careful to
line up pin-1 of cable with notch on socket.

11.   Insert the 16-pin ribbon header into socket 41 on the processor board
When the header is properly installed, the cable will stick straight out
from the right side of socket 41.

12.   Position the four spacers over the four empty screw holes in the
processor board. Turn the Interface board over and position the four hole
in the corners over the spacers. Insert the long screws through the corner
holes in the Interface board through the spacers and into the holes in the
processor board.

13.   The middle cable on the endbell assembly is "MIDI OUT". Connect this
cable to the molex connector on the Interface board labled "MIDI OUT". The
rear cable on the endbell assembly is labled "MIDI IN" and should be
connected to the molex labled "MIDI IN" on the interface board. "MIDI THRU
should be connected to "MIDI THRU".

14.   To insure proper operation after changing the EPROMS, the RAM chips
should be cleared. To do this carefully remove each RAM from it's socket a
then carefully put it back in. Do this with all three RAM chips. They are
I.C.'s 18,19, and 20.

14.   Close the front cover and replace the front cover screws.

15.   Re-connect the AC power cord.

16.   With the memory protect switch OFF (rear panel), turn the power on.
Load the saved data from cassette, including the offsets. See page 43 of th
OB-8 owners manual (included).

17.   Press AUTOTUNE.

18.   Apply sticker to the rear of the OB-8 above Computer Interface
connector.

ENGINEERING CHANGE ORDER

PRODUCT AFFECTED: OB-8	DRAWINGS AFFECTED: 1679 A sheet 4 of 4	ECO NO. 437

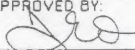| EFFECTIVITY:	REASON FOR CHANGE:
☐ AS REQUIRED IN TEST ☐ FUTURE PRODUCTION ☐ RETROFIT PRODUCTION & INVENTORY ☐ RETROFIT IN FIELD ☐ AS NEEDED ☐ DRAWING CORRECTION ONLY ☐ _____	to stop loss of offsets in memory on pwr down. (like DSX)

WRITTEN BY: Peter Munson	DATE: 6/15/84	APPROVED BY:	DATE: 6/15/84

DESCRIPTION OF CHANGE:

add. MOV 150v Varisters to primary of X-former

ENGINEERING CHANGE ORDER

PRODUCT AFFECTED OB-8 ASSY#730114	DRAWINGS AFFECTED OB-8 MOD CAN SCHEMATIC SHEET 1 OF 1.	ECO No 440

AFFECTIVITY.	REASON FOR CHANGE.
☒ AS REQUIRED IN TEST ☒ FUTURE PRODUCTION ☐ RETROFIT PRODUCTION & INVENTORY ☒ RETROFIT IN FIELD ☒ AS NEEDED ☐ DRAWING CORRECTION ONLY ☐	REMOVE NOISE MODULATION FROM VIBRATO LEVER, AND CORRECT SCHEMATIC.

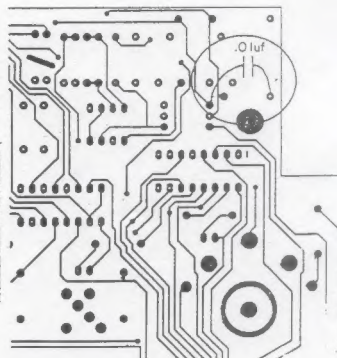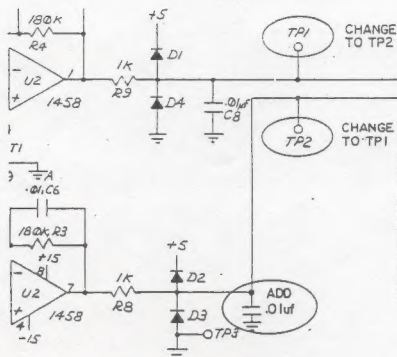| WRITTEN BY: PETE MUNSON	DATE: 9-7-84	APPROVED BY:	DATE. 9-7-84

DESCRIPTION OF CHANGE:

1. CHANGE SCHEMATIC AS SHOWN.

2. ADD .01uf CAP (OB.153004) FROM GROUND TO TEST
   POINT (T.P. 2) OF MOD CAN PCB ON 1666 SIDE OF BOARD.

ENGINEERING CHANGE ORDER

PRODUCT AFFECTED OB-8 ASSY. #720073	DRAWINGS AFFECTED VOICE BOARD SCHEMATIC 1682B SHEET 3 OF 3	ECO No 441

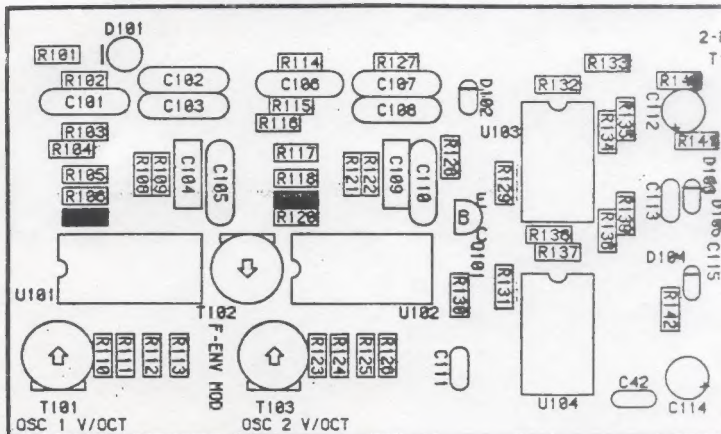| AFFECTIVITY:	REASON FOR CHANGE
☐ AS REQUIRED IN TEST ☒ FUTURE PRODUCTION ☐ RETROFIT PRODUCTION & INVENTORY ☐ RETROFIT IN FIELD ☐ AS NEEDED ☐ DRAWING CORRECTION ONLY ☐ _____	LOWER INITIAL FREQUENCY OF 3340 TO ACCOMMODATE A WIDER RANGE OF CHARACTERISTIC VARIATIONS ON THE 3340.

WRITTEN BY: MICHEL DOIDIC	DATE: 10-4-84	APPROVED BY:	DATE: 10-4-84

DESCRIPTION OF CHANGE:

REPLACE RESISTOR RX07 AND RX19 (215K,1%)
WITH 174K,1% (OB#475520).

OBERHEIM ELECTRONICS,INC
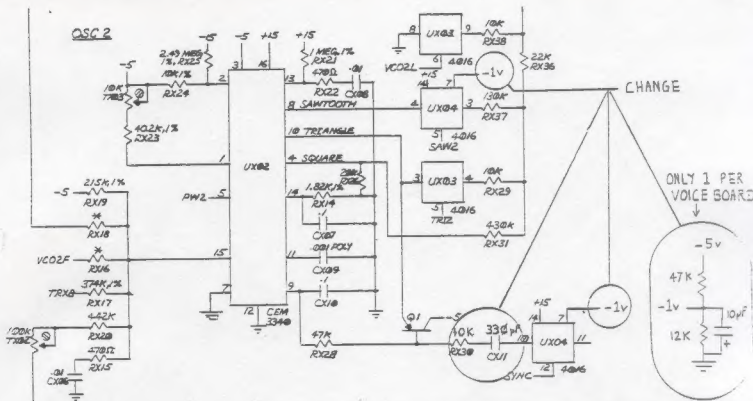2250 South Barrington Avenue,Los Angeles,California 90064,(213)473-6574

PRODUCT AFFECTED	DRAWINGS AFFECTED
OB-8	OB-8 VOICE BOARD 1682 A SHEET 3 OF 3

DESCRIPTION OF CHANGE

REASON FOR CHANGE

- IMPROVES SYNCHRO SOUND

EFFECTIVITY	WRITTEN BY	DATE
☒ FUTURE PRODUCTION ONLY, START WITH VOICE BOARD PC 1658B	MICHEL DOIDIC	2/11/83
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY		
☐ RETROFIT UNITS IN FIELD	APPROVED BY	DATE
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED		2/15/83.
☐		

OB-8 SOFTWARE UPDATE KIT — REVISION A8
July 1983
Part Number: 770041

The latest revision of software for the OB-8 contains several changes,
designed to improve the OB-8's existing features as well as adding the
following new features:

   1) Legato Portamento
   2) Equal Time Linear Portamento
   3) Exponential Portamento
   4) Inverted LFO Frequency Modulation on VCO1
   5) Inverted LFO Pulse Width Modulation on VCO1
   6) VCF Tracking of the Bend Lever
   7) Reversable Bend Lever
   8) Reversable Modulation Lever

NOTE: If the software to be replaced is "A3" or "A4", offset calibrations
must be performed as described in ECO 427.

   If the software to be replaced is "A1" or "A2", ECOs 405, 406, and 409
   must be implemented and the offset calibrations must be performed as
   described in ECO 427.

INSTALLATION:

1) If the installation is done properly, the contents of the memory (RAM)
    will remain intact. However, storing the data on cassette will provide
    a backup if battery power to the Random Access Memory is accidentally
    interrupted.

2) Turn off power and disconnect the power cord from the OB-8.

3) Remove the two screws at the top of each endbell and lift up the front
    panel.

4) Remove the four EPROM memory chips (U21 through U24) labeled "A7-0",
    "A7-1", "A7-2", "A7-3". Earlier software revisions are labelled A6 or
    A5.

5) Install the four new EPROM memory chips. The chip labeled "A8-0" goes
    in location U24, "A8-1" goes in location U23, "A8-2" goes in location
    U22, and "A8-3" goes in location U21.

    Make sure all of the chips have been installed correctly and that all
    of the pins have seated correctly in the sockets.

6) Close the unit and apply power. The OB-8 should return to the last
    selected program or to the cassette mode if the unit was last in
    cassette mode.